

## **Dioxin Disposal at the Bayonne Barrel and Drum Site**

### **Classification:**

Dioxin is regulated by the Federal Government under 40 CFR, Part 261.31(a). The following codes apply to dioxin wastes:

F020 - Wastes from the production or manufacturing use of tri or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives.

F021 - Wastes from the production or manufacturing use of pentachlorophenol, or of intermediates used to produce its derivatives.

F022 - Wastes from the manufacturing use of tetra-, penta-, or hexachlorobenzene under alkaline conditions.

F023 - Wastes from the production of materials on equipment previously used for the production or manufacturing use of tri- and tetrachlorophenols.

F024 - Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having a carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.

F025 - Condensed light ends, spent filters and filter aids and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having a carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.

F026 - Wastes from the production of materials on equipment previously used for the manufacturing use of tetra-, penta-, or hexachlorobenzene under alkaline conditions.

F027 - Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols.

F028 - Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous waste Nos. F020, F021, F022, F023, F024, F025, F026, F027.

These waste codes and the specific processes described are the only way dioxin is regulated by the Federal Government. Dioxin

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itself, is not regulated except as a byproduct of the above listed processes.

The dioxins found at the Bayonne Barrel and Drum Site, in Newark, New Jersey, cannot be related back to any of the above listed processes. They are contained in thermal residues and are believed to have formed during the incomplete combustion of PCBs, THF, and or pesticides during drum reconditioning activities. The source of the dioxin precursor cannot be determined and therefore the above listed hazardous waste codes would not apply. Dioxin at the Bayonne Barrel and Drum Site are essentially from an unknown source. As such, the dioxin found at the Bayonne Barrel and Drum Site is not regulated by the Federal Government under 40 CFR.

The State of New Jersey regulates 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) as a hazardous constituent, waste code "C411". The waste is therefore hazardous in the State of New Jersey and must be shipped with a New Jersey Hazardous Waste Manifest.

Since this waste is not regulated under RCRA regulations, it is up to the individual disposal facilities (TSDs) to determine if they wish to accept this waste.

#### Disposal:

Several disposal facilities including landfills and incinerators were contacted concerning the disposal of this material. Most incinerators were willing to accept this material as long as it did not carry any of the F020 - F028 waste codes. The chemical composition of the ash/soil piles varied (see attached) and as such not every disposal facility contacted was willing to accept all of the ash piles. Only a select few incinerators were able to accept the ash piles that were also TSCA regulated. Pricing at the incinerators varied from \$0.36 per pound (at Ross) up to \$2.00 per pound (at APTUS). Waste acceptance and pricing information is attached.

A decision was made to limit ash/soil pile disposal to only those waste streams containing the highest dioxin levels (ppm). Building No. 2 ash and piles 1 and 2 were selected for disposal as they contained Toxicity Equivalence Values of 4.4, 4.6 and 4.9 ppm. Building No. 2 ash was also RCRA hazardous for lead and cadmium and pile No. 1 was also RCRA hazardous for lead.

Waste profile forms and waste stream samples were sent to Ross incineration for verification and acceptance. During the time period of November 20 to December 4, 1995, twelve (12) shipments (an estimated 254 tons) of ash/soil were removed from the Bayonne Barrel and Drum site and transported to Ross Incineration Services in Gafton, Ohio for disposal. On December 5, 1995, an explosion caused by a drum of material (not from the Bayonne

Barrel and Drum Site) damaged Ross's incinerator and shut down operations. As a result of the shut down and limited on-site storage capacity the final two (2) roll-offs containing an estimated 34 tons of building No. 2 ash were returned to the Bayonne Barrel and Drum site on December 11, 1995. It is estimated Ross will be down for a minimum of 4 to 6 months.

Presently, the two roll-offs returned by Ross are staged on the site. Additional samples and profile forms have been sent to incinerators capable of disposing of this waste. Upon acceptance and receipt of disposal bids, off site disposal will be scheduled.